

Title (en)  
SUBSTRATE HAVING ANTIREFLECTIVE LAYER

Title (de)  
SUBSTRAT MIT ANTIREFLEXSCHICHT

Title (fr)  
SUBSTRAT AYANT UNE COUCHE ANTIREFLET

Publication  
**EP 2990838 B1 20181212 (EN)**

Application  
**EP 14789011 A 20140415**

Priority  
• JP 2013091568 A 20130424  
• JP 2014060751 W 20140415

Abstract (en)  
[origin: US2016025899A1] The present invention provides a substrate with an antireflection layer not only which is excellent in the antireflection properties but also which has high water repellency and oil repellency and favorable oil and fat stain removability, and a display device provided with a substrate with an antireflection layer. A substrate with an antireflection layer, which comprises an antireflection layer on at least one surface of the substrate, wherein the antireflection layer contains a silica porous film having fluorinated organic groups, and the surface of the antireflection layer on the opposite side from the substrate has an element number ratio F/Si of at least 1 as obtained from the peak height of F1s and the peak height of Si2p in surface analysis by scanning X-ray photoelectron spectroscopy (ESCA) and has an arithmetic mean roughness (Sa) of at most 3.0 nm.

IPC 8 full level  
**B01J 13/18** (2006.01); **B32B 7/02** (2006.01); **C01B 33/12** (2006.01); **C01B 33/18** (2006.01); **C03C 17/00** (2006.01); **C03C 17/25** (2006.01); **C09D 7/40** (2018.01); **G02B 1/11** (2015.01); **G02B 1/111** (2015.01); **G02B 1/113** (2015.01); **G02B 1/18** (2015.01); **G02B 27/00** (2006.01); **G09F 9/00** (2006.01); **C09D 5/00** (2006.01)

CPC (source: EP US)  
**C01B 33/18** (2013.01 - EP US); **C03C 17/006** (2013.01 - EP US); **C03C 17/25** (2013.01 - EP US); **C09D 7/40** (2017.12 - EP US); **C09D 127/24** (2013.01 - US); **G02B 1/111** (2013.01 - EP US); **G02B 1/18** (2015.01 - EP US); **B01J 13/18** (2013.01 - EP US); **C01P 2002/85** (2013.01 - EP US); **C01P 2004/03** (2013.01 - EP US); **C01P 2004/64** (2013.01 - EP US); **C01P 2006/14** (2013.01 - EP US); **C01P 2006/16** (2013.01 - EP US); **C01P 2006/60** (2013.01 - EP US); **C03C 2217/213** (2013.01 - EP US); **C03C 2217/425** (2013.01 - EP US); **C03C 2217/732** (2013.01 - EP US); **C09D 5/006** (2013.01 - EP US); **G02B 27/0006** (2013.01 - EP US); **G02B 2207/107** (2013.01 - EP US)

Cited by  
US11422294B2

Designated contracting state (EPC)  
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**US 10324234 B2 20190618**; **US 2016025899 A1 20160128**; CN 105143924 A 20151209; CN 105143924 B 20170531; EP 2990838 A1 20160302; EP 2990838 A4 20161130; EP 2990838 B1 20181212; JP 6653171 B2 20200226; JP WO2014175124 A1 20170223; KR 102120626 B1 20200609; KR 20160000456 A 20160104; TW 201504068 A 20150201; WO 2014175124 A1 20141030

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